provided Wilmington, and its hinterland, with excellent markets both for the purchase of raw materials and the sale of finished products. Contained within this hinterland was also a sizable population of skilled mechanics and machinists who were able to perform the skilled labor required by the new technologies. This combination of good transportation, a large trained labor pool, and a ready supply of raw materials allowed industry in northern New Castle County to grow and diversify very rapidly into the 20th century (Hoffecker 1977).

RESEARCH DESIGN

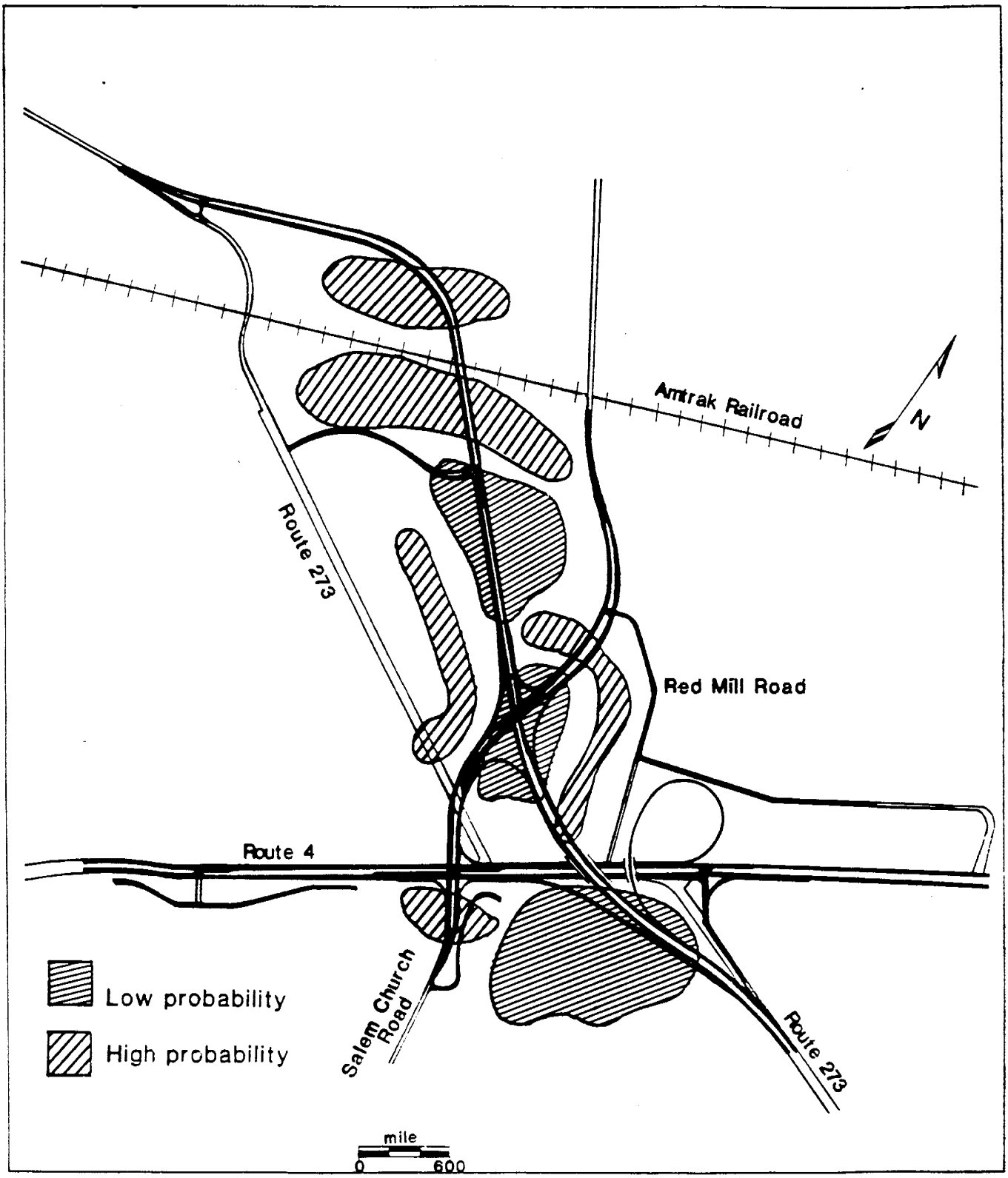
PREHISTORIC RESEARCH TESTING DESIGN

Within the Ogletown study area, soil drainage is the major determinant of prehistoric site potential. Poorly drained swamps, bogs, and springheads are productive hunting and gathering locales; however, their poor drainage precludes settlement within these settings. Nonetheless, well-drained knolls adjacent to poorly drained settings are likely site locations because they represent a suitable living area from which the resources of poorly drained swamps and bogs can be exploited. Figure 12 shows the distribution of likely site locations based on these criteria. The floodplain of Ogle's Run, a low order tibutary of the White Clay Creek within the study area, is also a likely site location.

Management plans for prehistoric cultural resources in Delaware (Custer 1986; Custer and DeSantis 1986) indicate the potential for specific archaeological resources of each prehistoric time period within the project area. For the Paleo-

FIGURE 12

Probability Zones for Prehistoric Site Locations



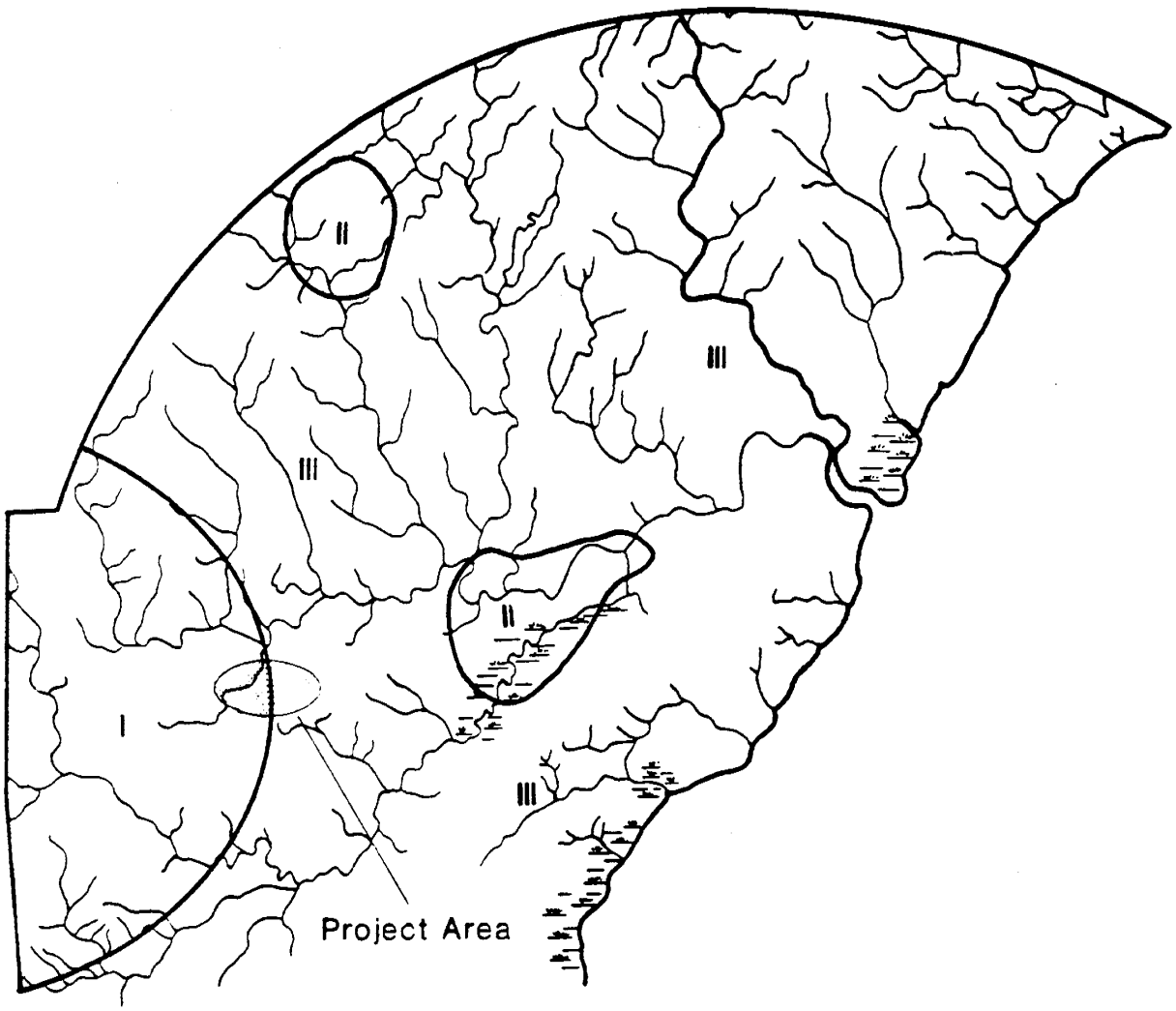
Indian Period, an important factor is the location of the Delaware Chalcedony Complex, including Iron and Chestnut Hills, approximately 4 miles southwest of the Project Area. The Delaware Chaledony Complex in northern Delaware and adjoining areas of Maryland was an important lithic source for prehistoric groups from all time periods (Custer, Ward, and Watson 1986). The project area is partially included within a major study unit of quarry sites related to the Delaware Chalcedony Complex (Figure 13). Expected site types include a range of quarry related sites and supporting hunting/gathering sites. Possible examples of such sites near the project area include 7NC-D-12 and 7NC-D-72 which have yielded Paleo-Indian as well as later materials. Both of these lie to the northeast of the project area.

For the Archaic Period, the project area lies within a general study unit of areas located outside of the Hockessin Lowlands/Churchman's Marsh area (Figure 14). In general, cryptocrystalline lithic sources no longer constitute a major focus because of the less restricted raw material preferences of Archaic hunter-gatherers. There is instead an expected focus on resource-rich settings such as bay basin features and poorly-drained swamp settings (Custer 1986:64). Within the project area, not only procurement sites should be expected, but base camp sites may be present adjacent to some of the larger poorly drained swamps, and bay/basin features. 7NC-D-11, located to the north of the project area, is an example of such a site.

The Woodland I Period is characterized by a shift to site locations along major river floodplains and estuarine swamps in

FIGURE 13

Paleo-Indian Study Units in Northern Delaware



I-Quarry area

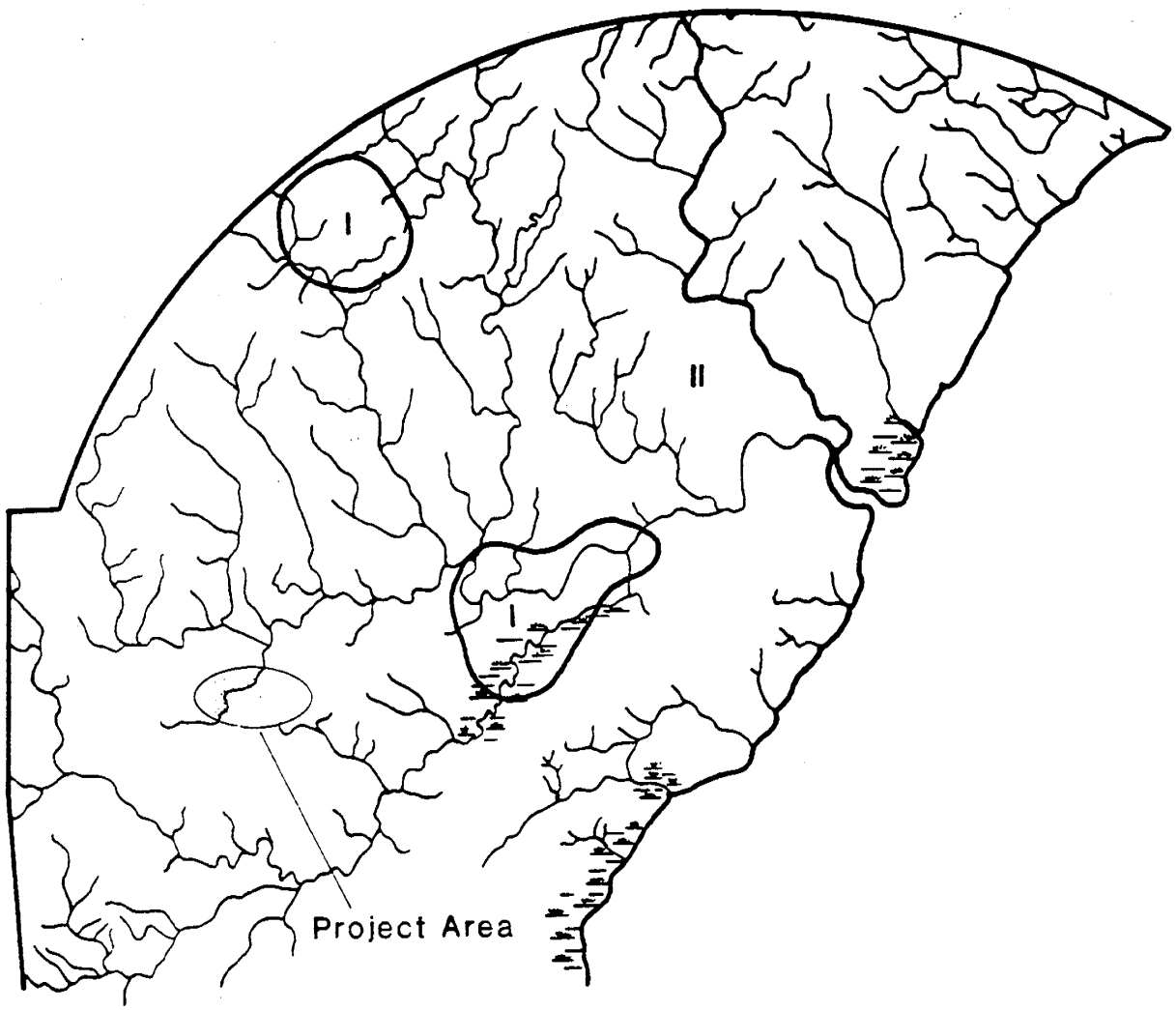
II-Hockessin Lowlands and Churchman's Marsh area

III-Remainder of study area

Source: Custer & DeSantis (1986:34)

FIGURE 14

Archaic Study Units in Northern Delaware



I-Hockessin Lowlands and Churchman's Marsh area

II-Remainder of study area

Source: Custer and DeSantis (1986:42)

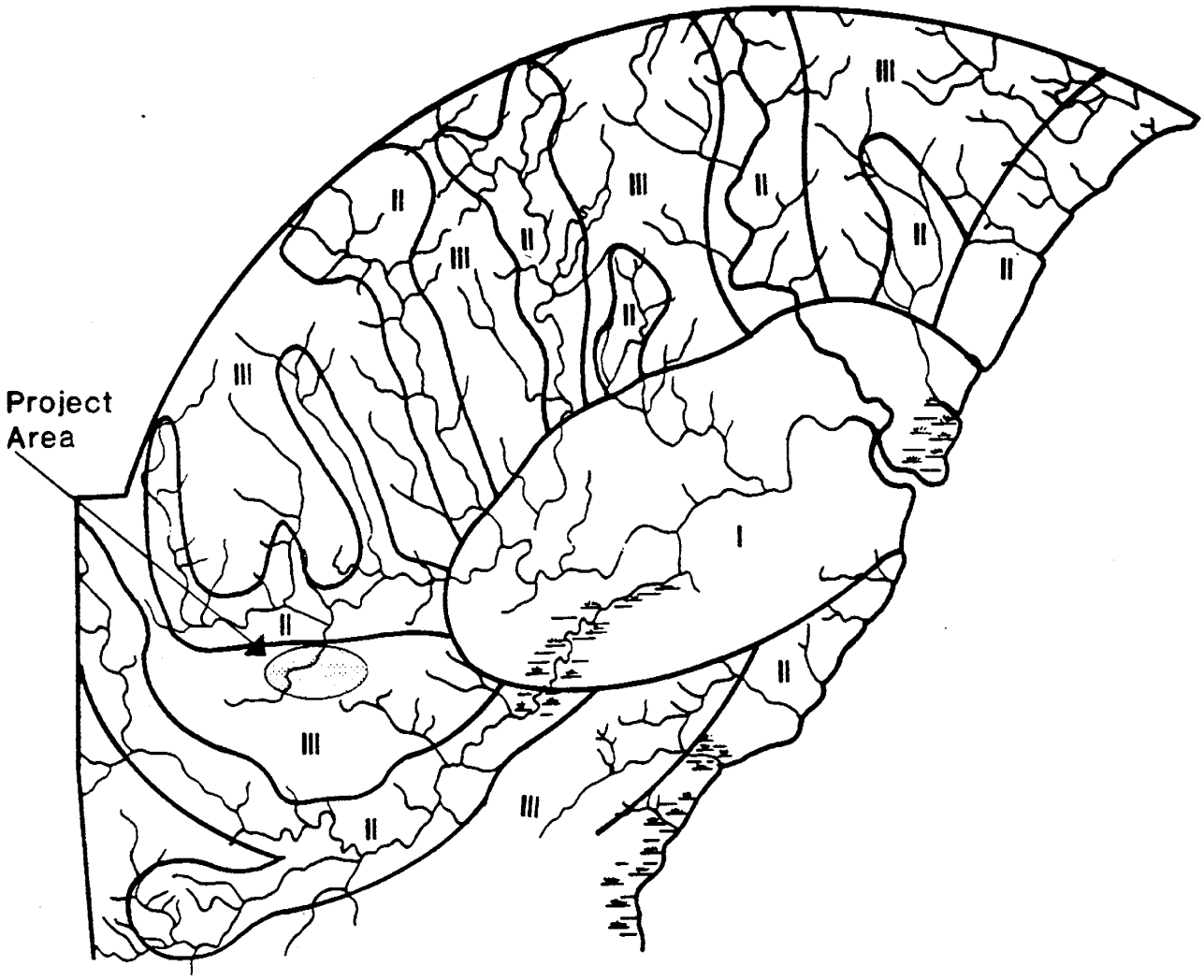
conjunction with warmer, dry environments and continued sea level rise. Sites in these settings appear to represent protracted occupations by larger groups. The project area is included in Northern Delaware Study Unit no. 2, along major drainage floodplains and no. 3, the Interior/Uplands Study Unit (Figure 15). In the former Study Unit, base camps or procurement sites are expected adjacent to major tributaries of White Clay Creek. Within the second study unit smaller, more ephemeral sites such as procurement and micro-band base camp occupations are expected at well-drained locations adjoining swamps and streams. Several small streams such as Cool Run and other unnamed small watercourses cross the proposed right-of-way and the numerous swampy settings could be the setting for these smaller, Woodland I sites. Examples in the project area or its vicinity include 7NC-D-52 and 7NC-D-125.

Study units for the Woodland II Period remain the same as those of the Woodland I, reflecting the observation that many of the Woodland I base camp locations continued to be occupied in the subsequent period with little change in artifact assemblages (Figure 16). In the project area vicinity, 7NC-D-52 has yielded material from both periods.

Based on the 1986 preservation plan for the prehistoric resources of Northern Delaware (Custer and DeSantis 1986) both the research potential and the site significance of any site located in the area can be determined. Within the project area, the research possibilities include a medium to low significant probability for site location and a medium site data quality (Custer and DeSantis 1986:Figure 25). When development pressures

FIGURE 15

Woodland I Study Units in Northern Delaware

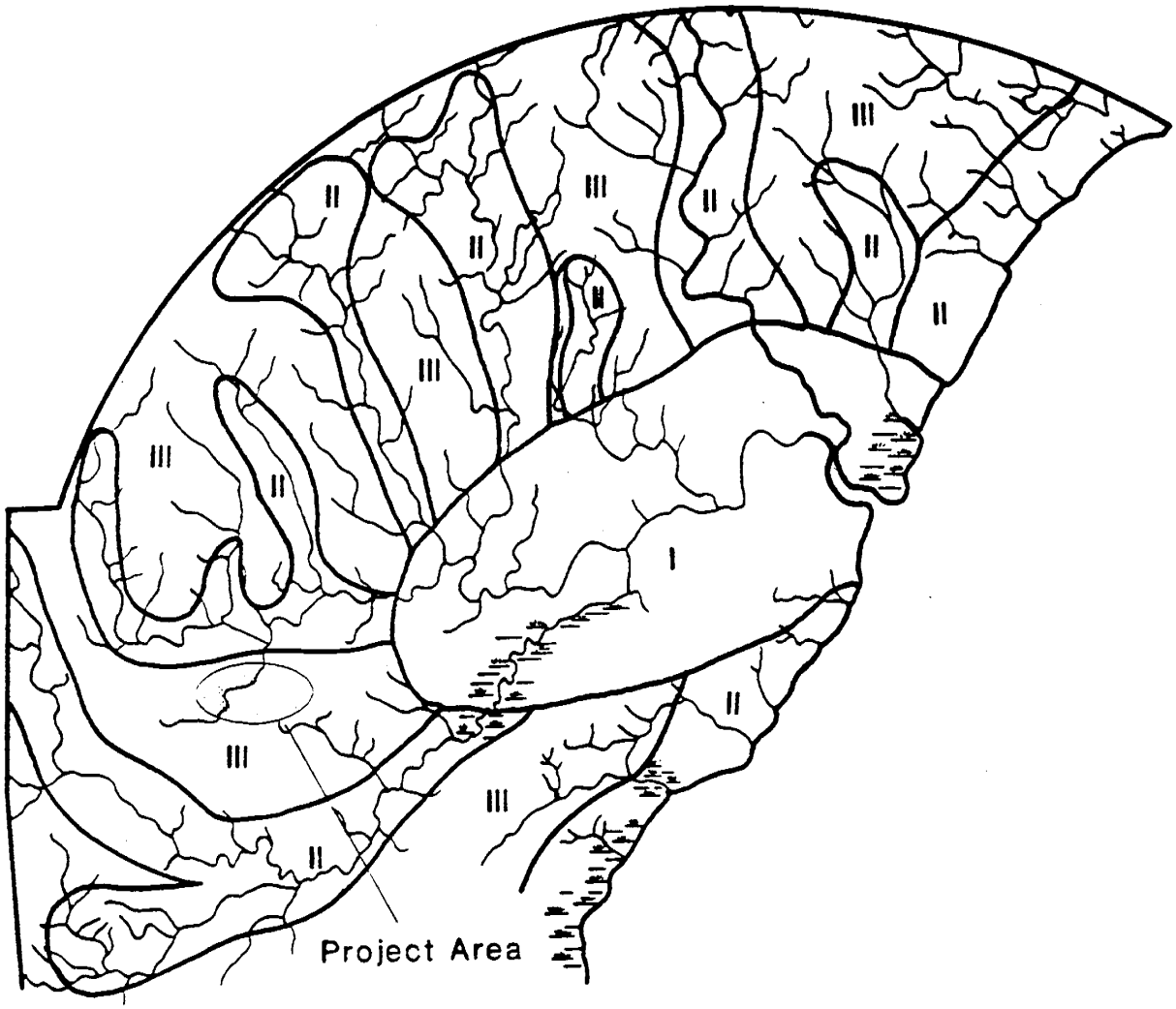


I–Lower Christina/Churchman's Marsh
II–Major Drainage Floodplains
III–Interior/Uplands

Source: Custer & DeSantis 1986:51

FIGURE 16

Woodland II Study Units in Northern Delaware



I-Lower Christina and Churchman's Marsh area

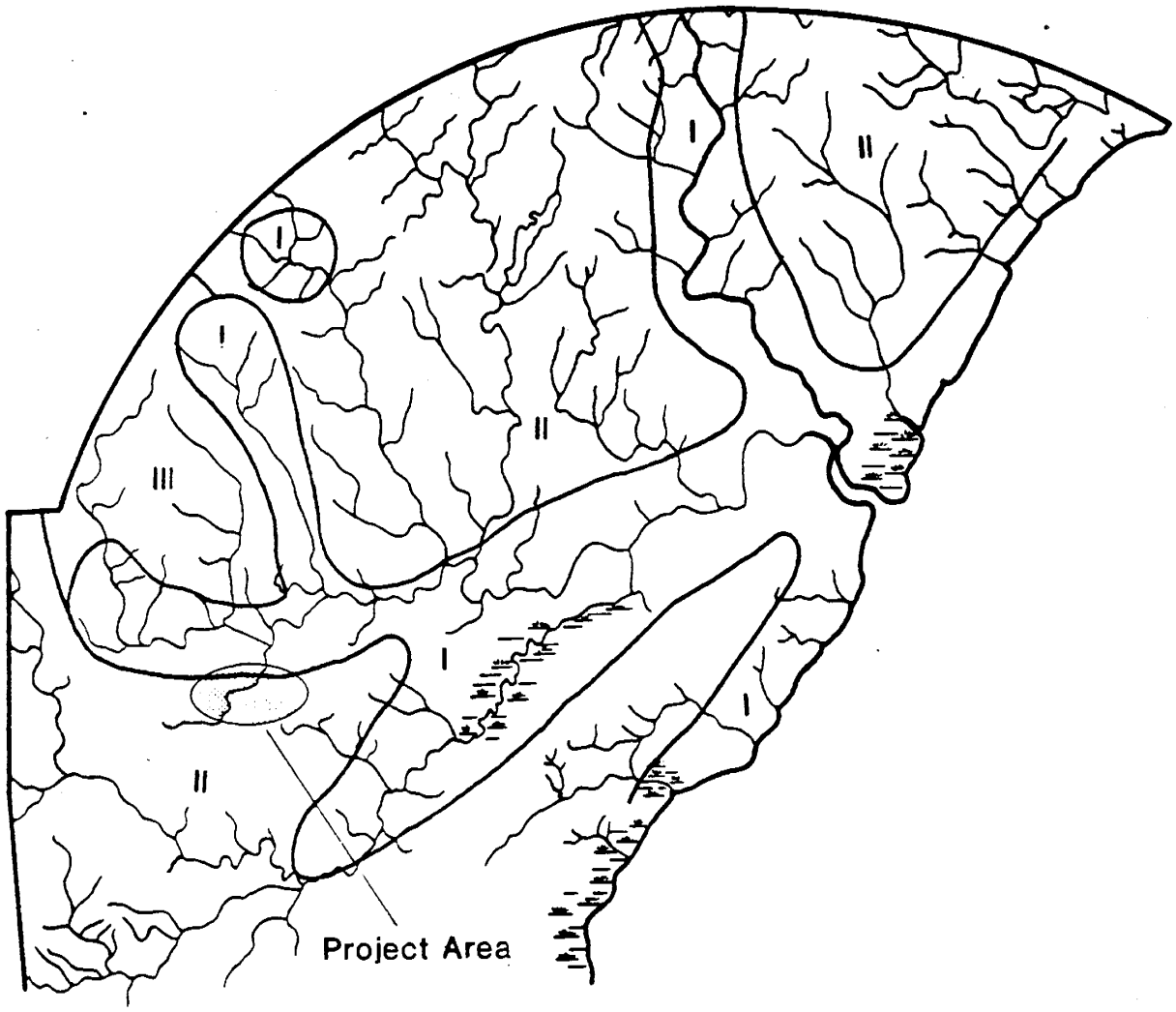
II-Major drainage flood plains

III-Interior/Uplands

Source: Custer and DeSantis (1986:57)

FIGURE 17

Composite Sensitivity Zones in Northern Delaware



I–High to medium significant site probabilities, high potential for development

II–Medium to low significant site probabilities and development pressure

III–Medium significant site probabilities and no development pressure

Source: Custer and DeSantis (1986:92)

are considered (Custer and DeSantis 1986:Figure 26), the project area lies on the boundary of Zones I and II and with a medium to high significant site probability and high development pressure (Figure 17). The project area is located approximately one mile to the west of the planned Metroform development area and there will be significant development pressure after the completion of the planned Ogletown improvements. This development pressure within the Ogletown project area only enhances the importance of any lowland sites in the project area.

HISTORIC RESEARCH TESTING DESIGN

The prediction of the location of historic resources within the project area was based on intensive archival research and this research indicated that most historic sites were located in the vicinity of the Ogletown intersection and along the roadways surrounding the former town center. This distribution is primarily a reflection of the development of transportation networks within the Ogletown area. Since the mid-to-late 18th century, the road networks have remained virtually unaltered, with the exception of several road widening projects, and, thus, remains of 18th, 19th, and 20th century occupation exist along the present roadways.

Background research on the historic cultural resources located within the project area revealed that Ogletown was an active and dispersed hamlet created in the mid-18th century. Containing approximately 8 farmsteads, 1 commercial area, and a single tavern, Ogletown developed in the mid-18th century because of its favorable setting within the transportation

network of northern Delaware. Because of competition from the Chesapeake and Delaware Canal and the Philadelphia, Wilmington, & Baltimore Railroad, Ogletown stagnated during the late 19th century in spite of its ideal location within the road transportation network. A revitalization took place during the 1920's with the construction of new houses and businesses along Routes 4 and 273; however, the housing stock was almost totally destroyed during DelDOT right-of-way acquisition in the 1960s and 1970s. Since the 1970's the destructive trend has continued but at a much reduced pace.

Beginning in the mid 1920's, the Delaware Department of Transportation conducted several road construction projects which affected cultural resources on the Christiana-Elkton Road (Route 4) and on the Christiana-Newark Road (Route 273). For the most part these early projects followed the route of the existing highway, and only slightly altered the road's width. Beginning in the mid-1950's construction destroying cultural resources increased dramatically. The initial DelDOT construction project [CN-27 (1925)], consisted of hardsurfacing of the existing 20' wide roadway and simple improvements to major intersections. A 1937 widening of the Christiana-Newark Road (273) consisted of a 10 foot widening of the roadbed to the east and west of the Ogletown project area. The next project, Contract no. 1154 (1952), widened and reconstructed Chesnut Hill Road (Route 4), extending the width of Route 4 to 25' and that of Route 273 to 40' in width. This widening project precipitated the removal of both the Thomas Ogle House and the A. Temple House. A follow-up project (no. 1378) in 1958 extended the width of Route 273 to 45'

FIGURE 18

1970-1986 Right-of-Way Acquisition by DelDOT

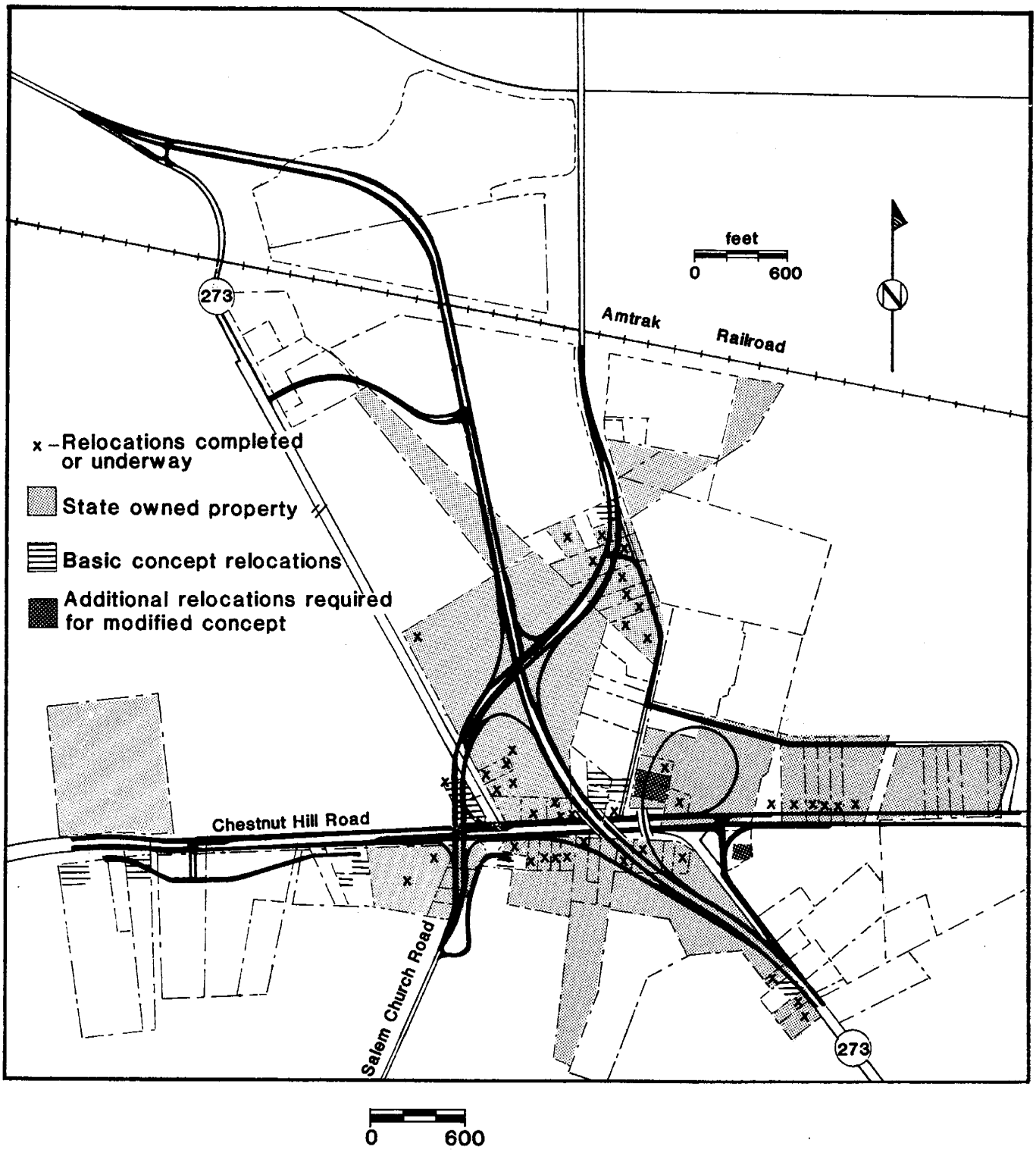
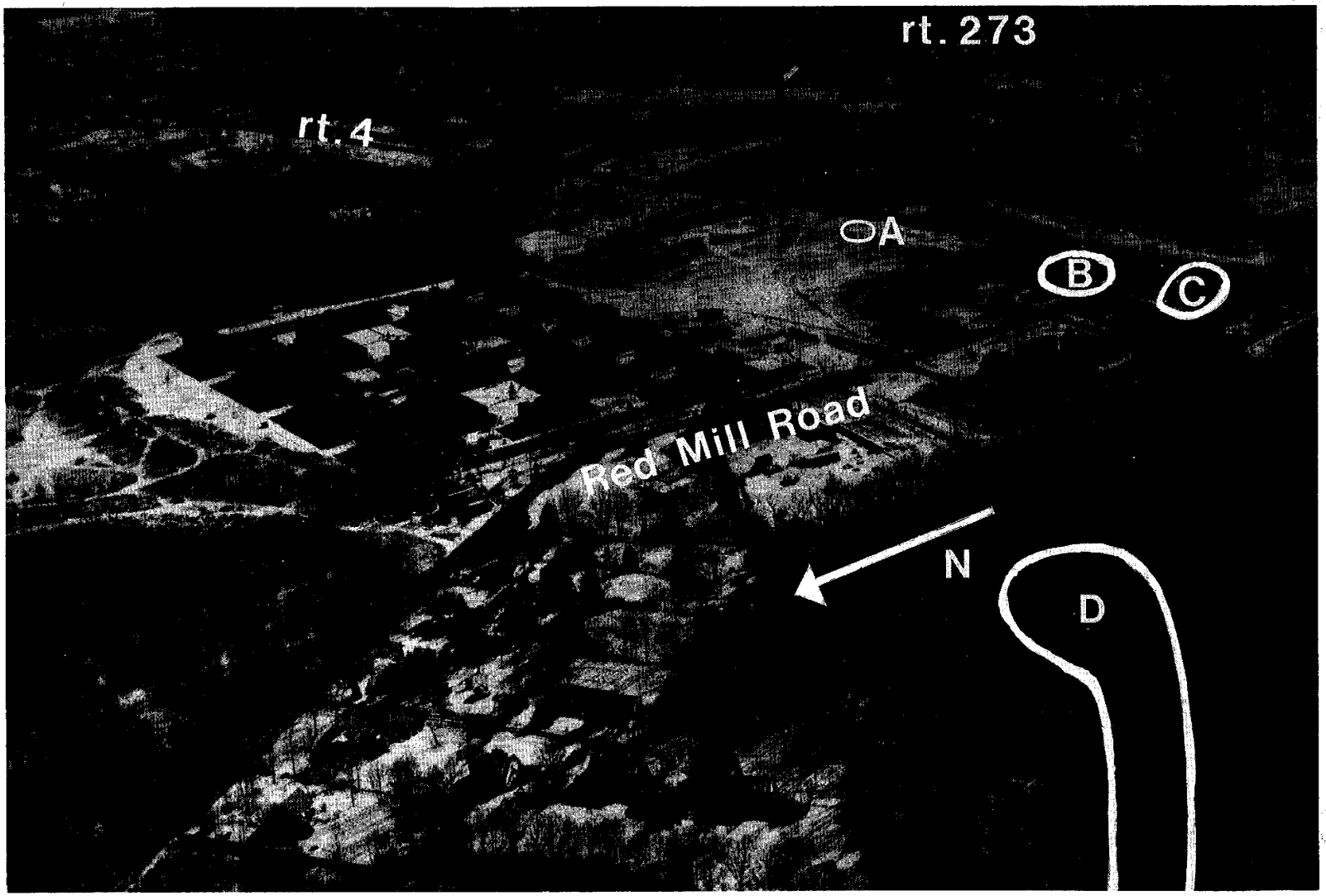


PLATE 1

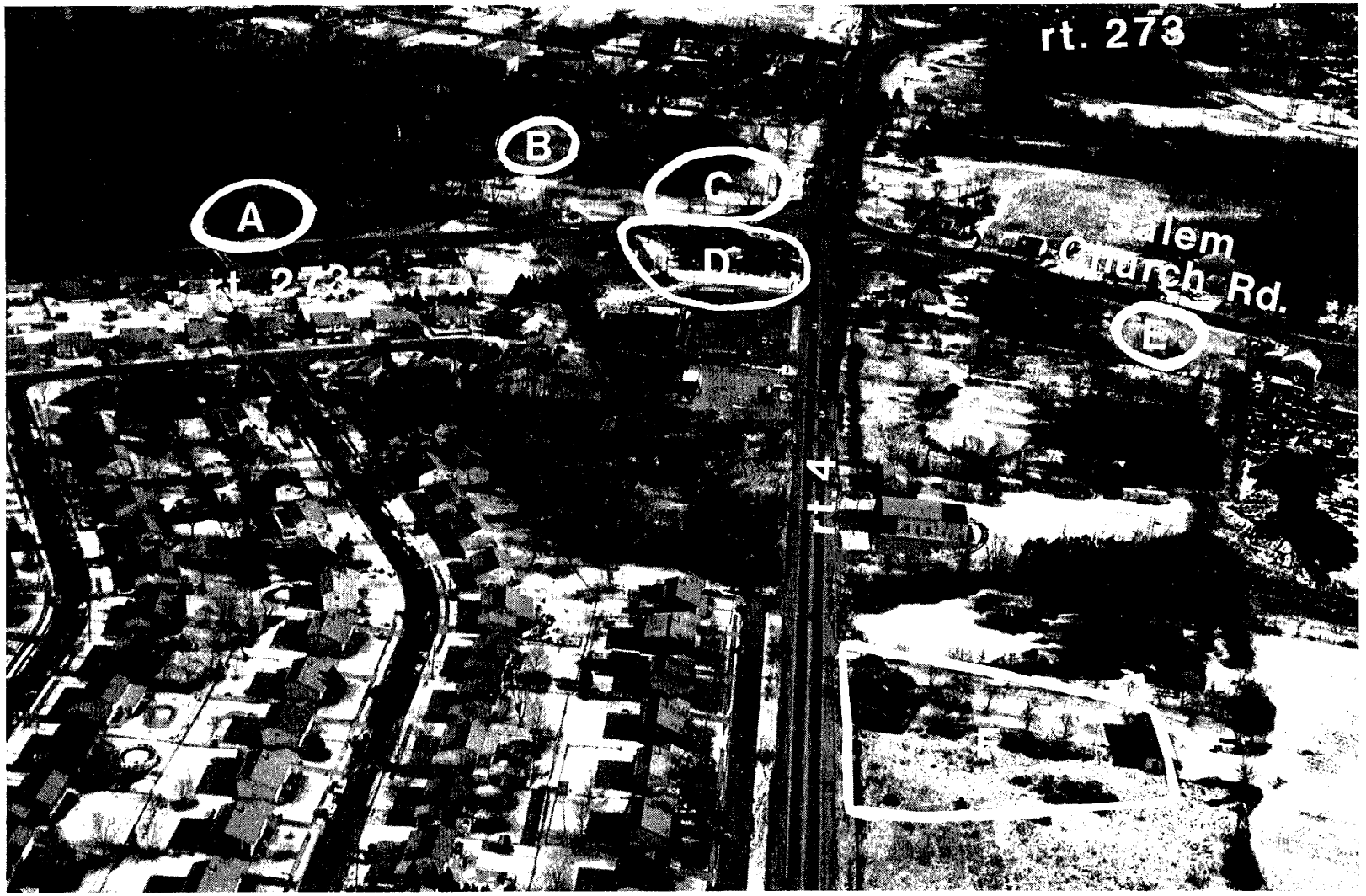
Ogletown Improvements Area, Central and Southern Section



A - W.E. Heisler Site 7NC-D-128
B - W.E. Heisler Tenancy Site 7NC-D-127
C - John Ruth Inn 7NC-D-126
D - Paradise Lane and Extension 7NC-D-125

PLATE 2

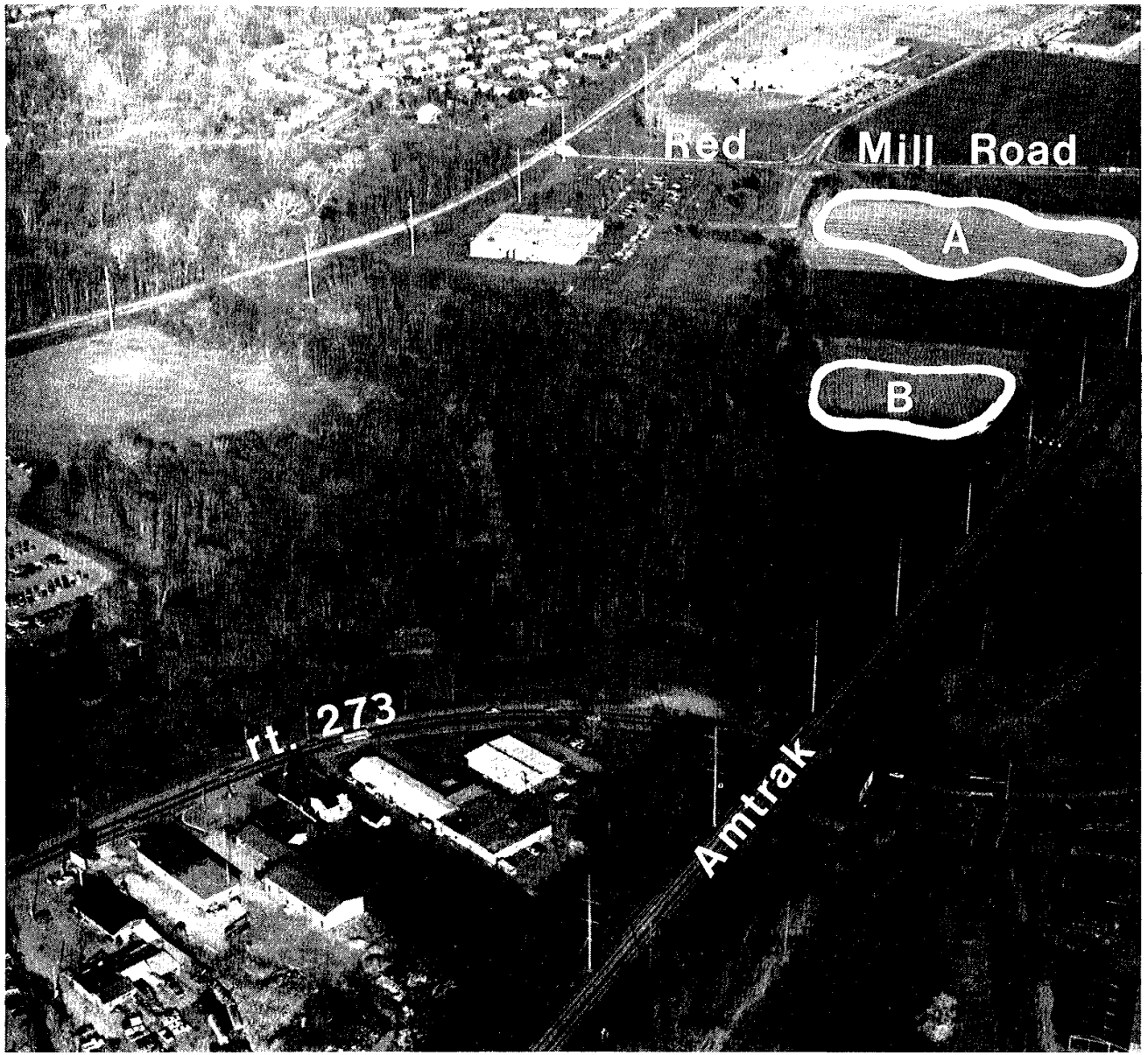
Ogletown Improvements Area, Central and Southern Section



A – Norman Tyndall Site, 7NC-D-132
B – Ogle Site, 7NC-D-69
C – Ogle Site, 7NC-D-69
D – Robert Ogle Site, 7NC-D-105
E – Dairy Queen Site, 7NC-D-129
F – A. Temple Site, 7NC-D-68

PLATE 3

Ogletown Improvements Area, Northern Section



A - Gabor Site 7NC-D-131A

B - Gabor Site 7NC-D-131B

between Christiana and Newark and totally reconstructed the Ogle's corner intersection. By this time private commercial development had removed the John Ruth Inn structure from its location on the northwest corner of the intersection of Red Mill Road and Route 4. The final highway construction in the project area was a 1982 project which widened the south side of Routes 4 and 273 in the project area and this project had no effect on cultural resources. The construction projects described above had significant impacts on the above mentioned cultural resources; however, the most extensive damage to the cultural resources has occurred since the 1970's in conjunction with right-of-way property aquisition by the Delaware Department of Transportation for the planned Ogletown improvements (Figure 18, Coleman and Custer 1985:Figure 4). Many of the structures and dwellings in the project area that had survived into the 20th century were demolished and removed during the property acquisition. The resulting landscape (Plates 1-3) is almost devoid of structures and looks nothing like either the 18th or the mid-20th century environment.

RESEARCH METHODS

PRELIMINARY RESEARCH

Phase I research consisted of two steps: 1) background and archival research, and 2) field survey. Background and archival research consisted of consultation with the staff of the Delaware Bureau of Archaeology and Historic Preservation (BAHP), review of all inventories of prehistoric and historic cultural resources maintained by the BAHP, review of historic atlases and maps,